UNITED STATES DEPARTMENT OF AGRICULTURE FOREST SERVICE RO

REPLY TO: 3430 Evaluation DATE: November 5, 1985

SUBJECT: Efficacy of Bayleton 50 WP, Tilt 3.6 EC and CGA-71818 10W for control of Sirococcus tip blight of Jeffrey pine at the Humboldt Nursery (Report No. 85-27)

TO: Forest Supervisor, Six Rivers National Forest

In previously reported fungicide trials in 1984 at the Humboldt Nursery, Tilt 3.6 EC and Bayleton 50 WP applied at 8 week intervals were as efficacious as Bravo W-75 applied at 4 week intervals for control of Sirococcus tip blight of Jeffrey pine (reference 3430 Evaluation, Report No. 84-38, October 11, 1984). Since these trials we have learned that the Ciba-Geigy Company plans to begin marketing CGA-71818, a compound similar to Tilt, for the control of powdery mildew on ornamentals. Since CGA-71818 is apparently closer to registration than is Tilt in California, the Ciba-Geigy Company, who manufactures both of these fungicides, suggested that CGA-71818 should also be evaluated for Sirococcus tip blight control. Forest Pest Management agreed, and the results of this field trial are presented below.

The trial was initiated in December, 1984. A randomized complete block design -- with 1) no fungicide, 2) 8 oz/100 gal/A of Bayleton 50 WP at 8 week intervals, 3) 130 ml/100 gal/A of Tilt 3.6 EC at 8 week intervals, and 4) 20 oz/100 gal/A of CGA-71818 10W at 8 week intervals as the four treatments -- was used in a 1-0 bed of Jeffrey pine. The experiment was replicated five times. Each replicate covered 20 feet of bed (five, 4 X 5 foot plots), with the four treatments randomized in each replicate. Efficacy of treatments was evaluated by counting and removing dead or cankered seedlings in July, 1985. At that time, the experimental bed had been treated three times (February, April, June). Remaining seedlings were counted to obtain a total count per plot, and percentage of seedlings infected by Sirococcus strobilinus in each treatment was determined.

Results of the study are presented in the following table:

PERCENTAGE OF JEFFREY PINE SEEDLINGS INFECTED BY SIROCOCCUS STROBILINUS AT THE HUMBOLDT NURSERY, 1984-1985 TRIALS

| TREATMENT | PERCENT OF SEEDLINGS INFECTED[x] |
|---|---|
| Tilt 3.6 EC, 8 weeks | 4.8a |
| CGA-71818 10W, 8 weeks | 6.3a |
| Bayleton 50 WP, 8 weeks | 8.4a |
| Control | 21.8b |

[x]Means followed by the same letter are not significantly different (P=0.05) according to Duncan's multiple range test.

All three fungicide treatments were similar in efficacy, resulted in less than 9% infection, and gave significantly better control of Sirococcus tip blight than no fungicide treatment. The CGA-71818 10W treatment was as effective as the Tilt 3.6 EC. Results were comparable to 1983-1984 trials where Tilt resulted in 4.4% infection, Bayleton in 9.5%, and no treatment in 25.1% infection. The currently used treatment of Bravo W-75 at 4 week intervals resulted in about 8% infection in two previous trials. These results suggest that Humboldt Nursery could replace the current treatment of Bravo W-75 at 4 week intervals with an 8 week treatment of Bayleton 50 WP, Tilt 3.6 EC, or CGA-71818 10W and obtain the same level of Sirococcus tip blight control.

The two Ciba-Geigy fungicides, CGA-71818 and Tilt, are not as yet registered in California as a Section 3 registration. However, a Special Local Need Registration (EPA SLN No. CA 850040) for Bayleton 50 WP is available, and Humboldt Nursery could consider evaluating Bayleton on production beds of Jeffrey pine during the 1986 growing season. Forest Pest Management is available to assist with the evaluation if needed.

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